

Original Research

Clinical profile of chronic leg ulcers patients

Saurabh Agrawal

Assistant Professor, Department of Dermatology, N C Medical College & Hospital, Panipat, Haryana, India

ABSTRACT:

Background: Leg ulcers are common and there are many varieties. Although those associated with venous defects are the most common and will be dealt with more fully here, they result, not from a single cause, but from the interaction of several complex factors. The present study was conducted to assess cases of chronic leg ulcers. **Materials & Methods:** 82 patients with chronic leg ulcers of both genders were diagnosed with clinical criteria such as various forms of ulcers, with particular attention paid to the location, morphology, and presence or absence of pigmentation, edema, or discomfort. **Results:** The age group 20-40 years had 12, 40-60 years had 38 and >60 years had 32 patients. The difference was significant ($P < 0.05$). The etiology of CLU was arterial in 22, venous in 28, mixed arterial & venous in 14, due to leprosy in 2 and diabetic ulcer in 16 cases. The difference was significant ($P < 0.05$). The common clinical findings were edema in 23, muscle wasting in 45, trophic change in 38, pigmentation in 61, and varicosity in 24 cases. The difference was significant ($P < 0.05$). **Conclusion:** Chronic leg ulcers were most frequently caused by arterial, venous, and mixed causes. Pigmentation and varicosity were frequently observed clinically.

Keywords: chronic leg ulcer, diabetes, arterial

Corresponding Author: Saurabh Agrawal, Assistant Professor, Department of Dermatology, N C Medical College & Hospital, Panipat, Haryana, India

This article may be cited as: Agrawal S. Clinical profile of chronic leg ulcers patients. J Adv Med Dent Scie Res 2018;6(3):198-201.

INTRODUCTION

Leg ulcers are common and there are many varieties. Although those associated with venous defects are the most common and will be dealt with more fully here, they result, not from a single cause, but from the interaction of several complex factors.¹ Only by an attempt to analyze these can we hope to establish a rational system of treatment. In the etiology of ulceration of the leg two factors are of particular importance and certain peculiarities in the circulation of the blood in the lower limbs.²

Ulcerations across the lower leg that last longer than six weeks are referred to as chronic leg ulcers. For the patient as well as the healthcare professional, it poses a serious public health issue.³ Leg ulcers can be caused by a variety of factors, including obesity, smoking, prolonged standing, ischemic or arterial ulcers, and venous ulcers. For an accurate diagnosis and course of treatment, a comprehensive history taking, a clinical examination, and regular and targeted investigations are crucial.⁴ Ankle Brachial Index (ABI), arterial and venous Doppler studies, pus or swab for culture and sensitivity, and accurate

diagnosis are crucial for effective treatment of the ailment.⁵ Nevertheless, this is rarely done, which leads to many people receiving antibiotics inappropriately and not receiving a diagnosis for peripheral vascular disease.^{6,7} The present study was conducted to assess cases of chronic leg ulcers.

MATERIALS & METHODS

The present study consisted of 82 patients with chronic leg ulcers of both genders. All were enrolled in the study with their written consent.

Data such as name, age, gender etc. was recorded. A comprehensive clinical assessment, standard blood tests, pus culture, and sensitivity testing were carried out. Ankle brachial index (ABI) and color doppler studies of the lower limb venous and arterial systems were performed. Clinical criteria were used to diagnose the various forms of ulcers, with particular attention paid to the location, morphology, and presence or absence of pigmentation, edema, or discomfort. The results were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Patient distribution

Age group (Years)	Number	P value
20-40	12	0.05
40-60	38	
>60	32	

Table I shows that age group 20-40 years had 12, 40-60 years had 38 and >60 years had 32 patients. The difference was significant (P< 0.05).

Table II Etiology of leg ulcers

Etiology	Number	P value
Arterial	22	0.05
Venous	28	
Mixed arterial & venous	14	
Leprosy	2	
Diabetic ulcer	16	

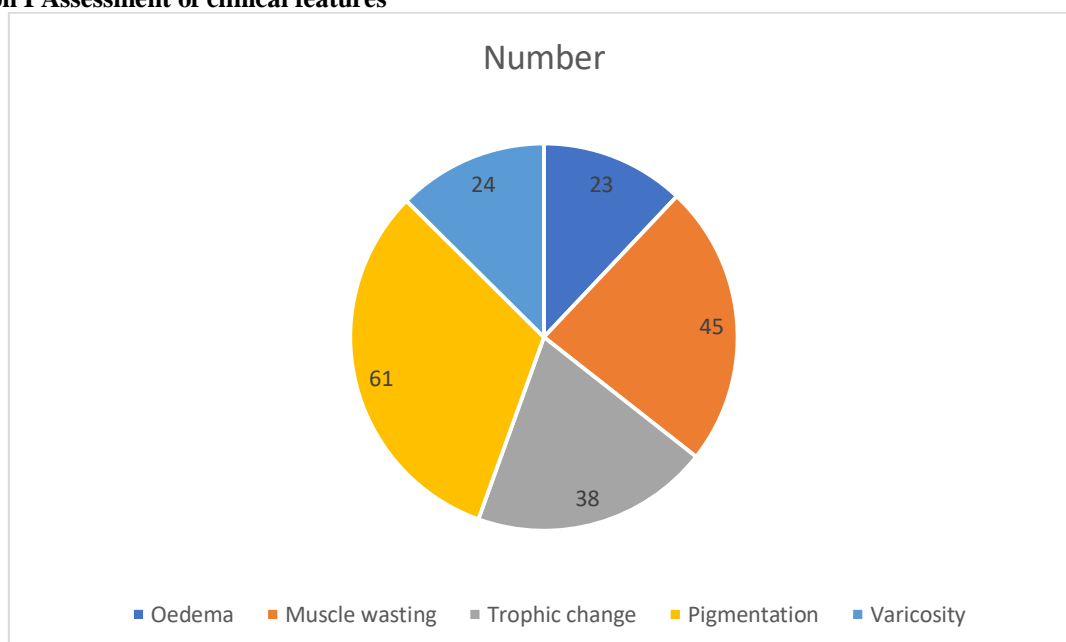
Table II shows that etiology of CLU was arterial in 22, venous in 28, mixed arterial & venous in 14, due to leprosy in 2 and diabetic ulcer in 16 cases. The difference was significant (P< 0.05).

Table III Assessment of clinical features

Clinical features	Number	P value
Oedema	23	0.03
Muscle wasting	45	
Trophic change	38	
Pigmentation	61	
Varicosity	24	

Table III, graph I shows that common clinical findings was oedema in 23, muscle wasting in 45, trophic change in 38, pigmentation in 61, and varicosity in 24 cases. The difference was significant (P< 0.05).

Graph I Assessment of clinical features



DISCUSSION

A chronic leg ulcer (CLU), also called a chronic lower limb ulcer, is a leg wound that does not appear to be healing after three months of the right care or does not heal completely after a year.⁸ Because of the aging population and the increased risk factors for atherosclerotic occlusion, such as obesity, diabetes,

and smoking, ulceration is becoming more common.⁹ According to reports, CLU affects almost every element of everyday life, including pain, sleep quality, mobility, and work capability. It also frequently has a negative impact on personal finances. It is also well known that social activities are limited as a result of negative body image and injury anxiety.¹⁰ Typically,

CLU is linked to substantial morbidity. Skin ulcers can cause the epidermis to completely disappear, as well as frequently parts of the dermis and even subcutaneous fat. Adults with lower leg ulcers frequently experience chronic ulceration, which is characterized by worsening discomfort, friable granulation tissue, bad odor, and wounds that break down rather than heal.¹¹ The present study was conducted to assess cases of chronic leg ulcers.

We found that the age group 20-40 years had 12, 40-60 years had 38 and >60 years had 32 patients. When surgical intervention is not an option, Vowden¹² has established four fundamental treatment techniques that can be used alone or in combination to promote healing and improve outcomes. Additionally, he has talked about local mechanical therapy like negative pressure wound therapy, systemic therapy with hyperbaric oxygen or interavenous therapy with drugs like prostaglandins, and neurovascular therapies like spinal cord stimulation and lumbar sympathectomy.

We observed that the etiology of CLU was arterial in 22, venous in 28, mixed arterial & venous in 14, due to leprosy in 2 and diabetic ulcer in 16 cases. We observed that the common clinical findings were edema in 23, muscle wasting in 45, trophic change in 38, pigmentation in 61, and varicosity in 24 cases. The clinical and etiological pattern of CLU patients was identified by Nag et al.¹³ Venous ulcers (34%) and arterial ulcers (14%), as well as combined arterial and venous ulcers (11%), were the most common types among the 100 patients. Among individuals with leg ulcers, obesity (BMI >25) (32%) and smoking history (56%) were the most common risk factors. Of the entire CLU, 59 percent were infected, and 86.4% of those had microbes growing on them. The most often isolated organism was *Staphylococcus aureus* (39%) and *Pseudomonas aeruginosa* (15%). ABI was considerably lower in eleven (24.44%) patients with venous ulcers who were clinically identified.

Mackenzie et al¹⁴ compared patients who developed CVU before (Group 1) and after (Group 2) their 50th birthday. Patients in Group 1 (n = 54, 46%) were more likely to be male (32/54 [59%] vs 14/64 [23%]) body mass index (32 [27-39] vs 27 [23-34]), to have a history of deep venous thrombosis (23/54 [43%] vs 16/64 [25%]) and of ipsilateral long bone fracture (13/54 [24%] vs 5/64 [8%]), to have previously undergone venous surgery (27/54 [50%] vs 19/64 [30%]) years earlier respectively, and to have worse disease in terms of the duration of present ulcer (12 (6-36) vs 8.5 [3-18] months, p = 0.035 MWU), the total duration of ulcer disease (216 [72-360] vs 48 [12-120] months, p < 0.001 MWU), and the number of episodes of ulceration (3 [2-7] vs 1 [1-3]). There was no significant difference between the two groups in the pattern and severity of venous reflux with 46/54 (85%) of group 1 and 54/64 (84%) of group 2 patients having surgically correctable superficial venous reflux.

Fowkes et al¹⁵ evaluated clinically diagnosed patients with venous ulcer using ABPI and Colour Doppler study for the presence of peripheral arterial disease (PAD). Possible associations such as age, sex, body mass index (BMI), smoking, hypertension and atherosclerosis were studied. PAD was present in 23 (27.71%) patients. Older age, longer duration, smoking, high BMI and hypertension were found to be significantly associated with PAD. A very strong level of agreement was found between venous Doppler and ABPI. Assessment for the presence of PAD is important in all clinically diagnosed venous ulcer patients.

CONCLUSION

Authors found that chronic leg ulcers were most frequently caused by arterial, venous, and mixed causes. Pigmentation and varicosity were frequently observed clinically.

REFERENCES

1. Abbade LPF, Lastória S, de Almeida Rollo H. Venous ulcer: Clinical characteristics and risk factors. *Int J Dermatol* 2011;50:405-11.
2. Bowler PG, Davies BJ. The microbiology of infected and noninfected leg ulcers. *Int J Dermatol* 1999;38:573-8.
3. Howell-Jones RS, Wilson MJ, Hill KE, Howard AJ, Price PE, Thomas DW. A review of the microbiology, antibiotic usage and resistance in chronic skin wounds. *J Antimicrob Chemother* 2005;55:143-9.
4. Margolis DJ, Bilker W, Santanna J, Baumgarten M. Venous leg ulcer: Incidence and prevalence in the elderly. *J Am Acad Dermatol* 2002;46:381-6.
5. Liedberg E, Persson BM. Increased incidence of lower limb amputation for arterial occlusive disease. *Acta Orthop Scand* 1983;54:230-4.
6. Nelzén O, Bergqvist D, Lindhagen A, Hallböök T. Chronic leg ulcers: An underestimated problem in primary health care among elderly patients. *J Epidemiol Community Health* 1991;45:184-7.
7. Urbancic-Rovan V, Gubina M. Infection in superficial diabetic foot ulcers. *Clin Infect Dis* 1997;25:184-5.
8. Ge Y, MacDonald D, Hait H, Lipsky B, Zasloff M, Holroyd K. Microbiological profile of infected diabetic foot ulcers. *Diabet Med* 2002;19:1032-4.
9. Mortimer PS, Burnand KG, Neumann HAM. Diseases of the veins and arteries: Leg ulcers. In: Burns T, Breathnach S, Cox N, Griffiths C, editors. *Rook's Textbook of Dermatology*. 8th ed.. Wiley-Blackwell; 2010. p. 47.1-58.
10. Mekkes JR, Loots MAM, Van Der Wal AC, Bos JD. Causes, investigation and treatment of leg ulceration. *Br J Dermatol* 2003;148:388-401.
11. Baker SR, Stacey MC, Jopp-McKay AG, Hoskin SE, Thompson PJ. Epidemiology of chronic venous ulcers. *Br J Surg* 1991;78:864-7.
12. Vowden. Arterial disease: medical and future perspectives in Proceedings of the WUWHS Congress, 2008.
13. Nag F, De A, Hazra A, Chatterjee G, Ghosh A, Surana TV. Chronic venous ulceration of leg associated with peripheral arterial disease: An underappreciated entity in developing country. *Int Wound J*. 2014;11:546-9.

14. MacKenzie RK, Brown DA, Allan PL, Bradbury AW, Ruckley CV. A comparison of patients who developed venous leg ulceration before and after their 50th birthday. *Eur J VascEndovasc Surg.* 2003;26:176–8.
15. Fowkes FG, Evans CJ, Lee AJ. Prevalence and risk factors of chronic venous insufficiency. *Angiology* 2001;52 Suppl 1:5- 15.